



Department of Civil Engineering  
The University of Hong Kong  
香港大學土木工程系

# Distinguished Public Lecture (Online)

## Isogeometric Analysis of Solids and Structures: Breakthroughs in Shell Modeling

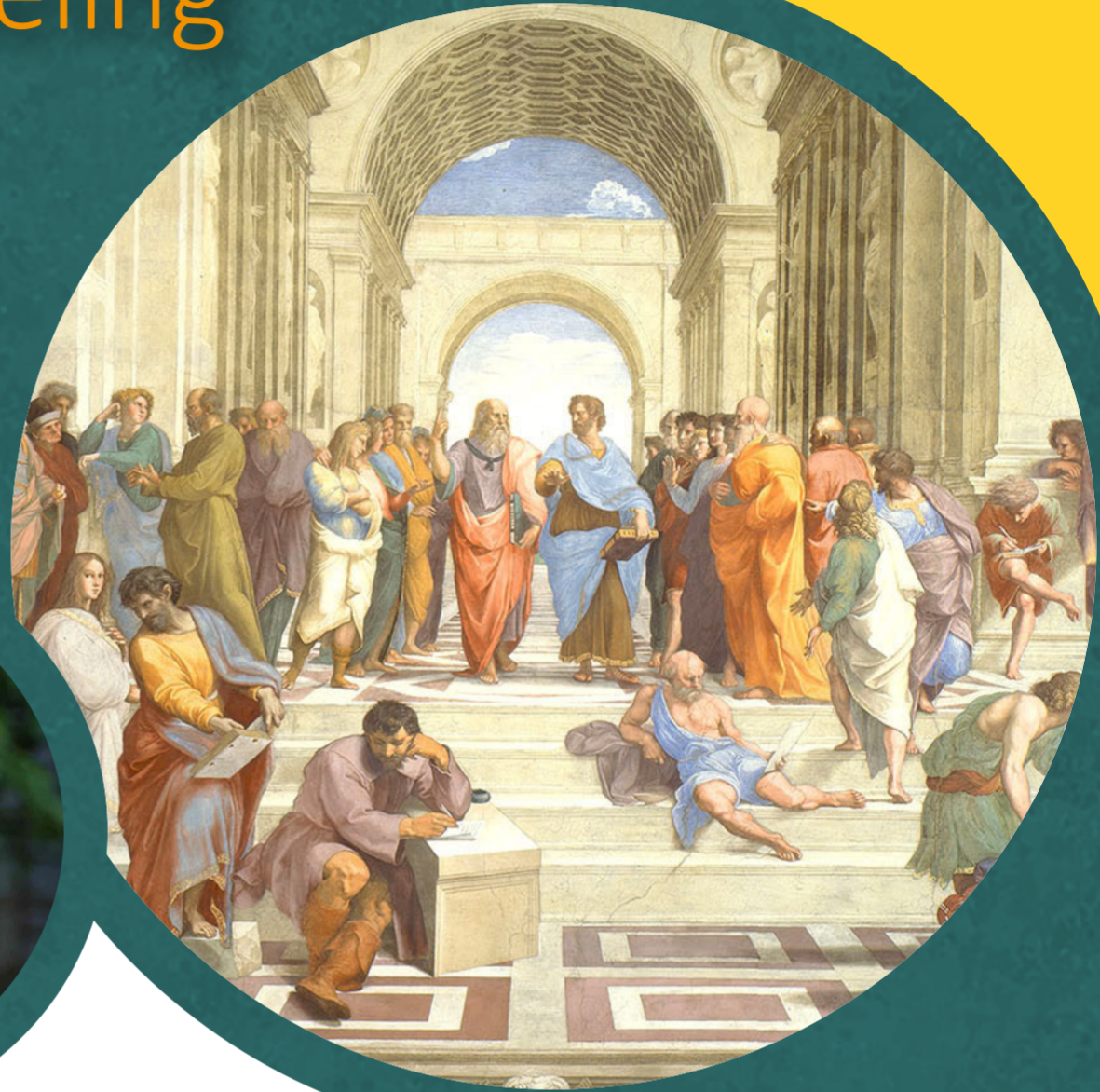
 Date: 24 March 2021 (Wed)

 Time: 10:00 a.m. (HKT)

 via Zoom

### Professor Yuri Bazilevs

E. Paul Sorensen Chair in the  
School of Engineering at Brown University



#### About the Speakers

**Yuri Bazilevs** is the E. Paul Sorensen Chair in the School of Engineering at Brown University. He was previously a Professor and Vice Chair in the Structural Engineering Department at the University of California, San Diego. Yuri is the original developer of Isogeometric Analysis (IGA), a new computational methodology that aims to integrate engineering design (CAD) and simulation (FEM). For his research contributions Yuri received a number of awards and honors, including the 2018 Walter E. Huber Research Prize from the ASCE and the 2020 Gustus L. Larson Award from the ASME. He is included in the lists of Highly Cited Researchers, both in the Engineering (2015-2018) and Computer Science (2014-2019) categories. Yuri currently serves as the Chairman of the Applied Mechanics Division of the ASME and President of the US Association for Computational Mechanics.

#### Abstract

This presentation is focused on Isogeometric Analysis (IGA) with applications to solids and structures. The presentation starts with early developments and results for IGA in solids and transitions to more recent work on shell structures. Novel IGA-based thick and thin-shell formulations are discussed, and applications to crushing, Fluid-Structure Interaction (FSI), and progressive damage modeling in composite laminates due to impact are shown. Challenges for integrating shell analysis with Computer-Aided Design (CAD) surface representations are addressed, and latest modeling efforts are summarized. The presentation is infused with examples that highlight effective uses of IGA shells in advanced engineering applications.



Registration is required only for participants who need attendance certificate:

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An electronic certificate of attendance will be issued to registered participants after the public lecture.



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